AFCTN Test Report 93-063

AFCTB-ID 93-018

CALS TEST NETWORK

Technical Publication Transfer

Using:

Northrop Corporation's Data

MIL-D-28000A (IGES)
MIL-M-28001A (SGML)
MIL-R-28002A (Raster)
MIL-D-28003 (CGM)

Quick Short Test Report

7 March 1993

1996 0822 126

Prepared for

Electronic Systems Center

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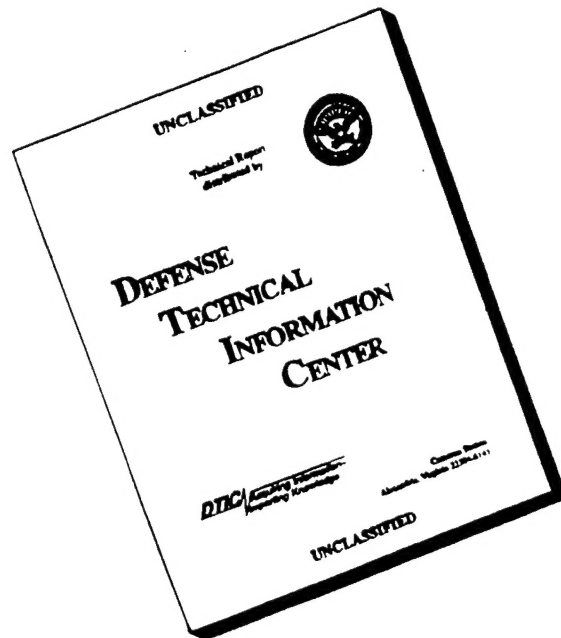
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Quick Short Test Report

07 March 1993

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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. The include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) tat briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Northrop Corporation's interpretation and use of the CALS standards in transferring technical publication data. Northrop used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 93-018

**Date of
Evaluation:**   7 March 1993

Evaluators: George Elwood
                                  Air Force CALS Test Bed
                                  DET 2 HQ ESC/ENCP
                                  Suite 300
                                  4027 Colonel Glenn Hwy
                                  Dayton OH 45431-1672

**Data
Originator:**   John P. Kent
                                  Northrop Corporation
                                  B-2 Division
                                  L591/GK
                                  8900 East Washington Blvd
                                  Pico Rivera CA 90660
                                  (310) 948-0624

**Data
Description:**   Technical Manual Test
                                            3 Document Declaration files
                                            3 Document Type Definitions (DTD)
                                            4 Initial Graphics Exchange Specifications
                                                    (IGES) files
                                            3 Text files
                                            1 Raster file
                                            5 Computer Graphics Metafile (CGM) files

**Data
Source System:**

                        IGES

                        HARDWARE
                                  Unknown
                        SOFTWARE
                                  Unknown

Text/Standard Generalized Markup Language (SGML)

    HARDWARE
        Unknown
    SOFTWARE
        Unknown

Raster

    HARDWARE
        Unknown
    SOFTWARE
        Unknown

CGM

    HARDWARE
        Unknown
    SOFTWARE
        Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)
    SUN 3/280
        AFCTN *Tapetool v1.2.8 UNIX*
        Texas Instruments (TI) *Tapetool v1.0.1*

MIL-D-28000 (IGES)
    Sun SparcStation 2
        ArborText *iges2draw*
        IGES Data Analysis (IDA) *Parser/Verifier v92*
        IDA *IGESView v3.05*
        International TecheGroup Incorporated
            (ITI) *IGESWorks v1.3*

MIL-M-28001 (SGML)
    Cheetah Gold 486
        Datalogics *ParserStation v3.36*
        Exoterica *XGMLNormalizer v1.2e3.2*
        Public Domain *sgmls*

MIL-R-28002 (Raster)
SUN SparcStation 2
ArborText *g42tiff*
AFCTN *validg4*
AFCTN *calstb.475*
IDA *IGESView v3.0*
Island Graphics *IslandPaint v3.0*
Cheetah
Inset Systems *HiJaak v2.1*
Inset Systems *HiJaak Window v1.0*
Software Publishing Corporation
(SPC) *Harvard Graphics v3.0*
Corel *Ventura Publisher*

MIL-D-28003 (CGM)
SUN SparcStation 2
ArborText *cgm2draw*
Island Graphics *IslandDraw v3.0*
Cheetah Gold 486
Advance Technology Center
(ATC) *MetaView R 1.12*
ATC *MetaCheck R 2.05*
SPC *Harvard Graphics 3.05*
Inset Systems *HiJaak v2.1*
Inset Systems *HiJaak v1.0 Windows*
Micrografx *Designer 3.1*
Micrografx *Charisma 2.1*
Corel *Ventura Publisher*

Standards
Tested:

MIL-STD-1840A
MIL-D-28000A
MIL-M-28001A
MIL-R-28002A
MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was marked with the magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape were enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTB *Tapetool v1.2.8* utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was also evaluated using TI's version of *Tapetool*. No errors were reported from this program.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration file or data file headers.

4. IGES Analysis

This tape contained four IGES files. These files were
evaluated using IDA's *Parser* and *Verifier* set for CALS Class
I. This software reported no errors in the files.

The AFCTB has several tools for viewing IGES files. These
tools are not used to generate a pass/fail but to report how
commercially available software can handle the files. Many
of these products are used in the development of technical
publications and are good indicators of usability. The use
of these products is not an endorsement nor an indication of
meeting CALS standards. All operations were performed using
the default settings.

The four files were converted using ArborText's *iges2draw*
utility with no reported errors. When the resulting files
were imported into Island Graphics' *IslandDraw*, file Q304
displayed the right edge with nothing printing except a few
lines. File Q305 displayed a heavy line on the right side
of the screen and printed nothing. Files Q306 and Q307
displayed and printed without a problem.

The four files were converted using the AUTODESK's *IGES
Translator 5.1* with no reported problems. The resulting
files were displayed using AUTODESK's *AutoCAD R12*. The
images appear to be complete.

The four files were imported into IDA's *IGESView* without a
reported problem. The files displayed and printed without
a problem. All files appear to be complete.

the four files were imported into ITI's *IGESWorks* with no
reported errors. All files displayed and printed with com-
plete images.

The IGES files meet the CALS MIL-D-28000A specification.

5. SGML Analysis

The tape contained three DTDs and three Text files. The DTDs were the same except for the graphic references. To save time, all of the graphic references were placed in one DTD and this file was used during all operations.

The Text files on this tape were short and only called the graphics files.

The DTD was parsed using Exotercia's *XGMLNormalizer* with no reported errors. When the DTD was use to parse all three Text files the same errors were reported.

```
C:\XGML\XGMLNORM.EXE --
Error on line 1 in file i:\9318\t101.txt:
A REQUIRED attribute is missing.
For start tag 'DOC': For REQUIRED CDATA attribute 'FOSICITE'.
```

The DTD was parsed using the Datalogics' *ParseStation* software with no reported errors. This software did you non used elements. See the appendix for the log file. When the DTD was used to parse the text files, the missing tag was also reported. See the Appendix for the log.

The DTD was parsed using the Public Domain *sgmls* parser. This parser reported two errors in the DTD. When the DTD and Text files were parsed together several error messages were generated. The boardno errors are not errors because they were commented out of the DTD before parsing. This parser also reported the missing tag.

The DTD and Text files do not meet the CALS MIL-D-28001A specification.

6. Raster Analysis

The tape contained one Raster Type II file. The AFCTB currently does not have the ability to evaluate Type II Raster files. The file will be sent to LLNL for evaluation.

7. CGM Analysis

This tape contained five CGM files. All files were evaluated using ATC's *MetaCheck* software with CALS options. The version in use is not the most current version of the software. This utility reported that all files meet the CALS MIL-D-28003 specification.

The files were evaluated using the AFCTN beta *validcgm* utility. This program reported errors in all files.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of meeting CALS standards. All operations were performed using the default settings.

The files were converted using ArborText's *cgm2draw* utility. No errors were reported during this procedure. The resulting files were read into Island Graphics' *IslandDraw*. With the exception of font problems and misplaced lines, the files all displayed and printed correctly. It was noted that no colors were displayed on the screen.

The files were directly imported into Island Graphics' *IslandDraw*. File C204 was missing the boxes around the restricted text. File C205 had most of the entities placed in the lower right corner. They over laid other entities. File C209 had some text over flow. Color was displayed where it added to initial files.

The files were imported into SPC's *Harvard Graphics 3.05* with all files except C208 reporting errors. The errors were line style, non-CGM entities, and non-converted entities. Files C204 displayed missing polygon sets and cell arrays. The text font was also incorrect. File C205 had missing entities. File C206 had many entities missing. Most of the lines in file C207 did not display or print. File C208 had many text overflows.

Attempts to read the files with the Micrografx *Designer* and Inset Systems' *HiJaak for Windows* did not work with a Run time error being displayed.

Per Beverly Bernard of Inset Systems, "The problems associated with *HiJaak for Windows v1.0* have been corrected with *HiJaak PRO v2.0.*"

According to Michael Harrison of Micrografx, "Micrografx is aware of the problems associated with reading these files and is working on a solution to be implemented in a future release of our products."

All files were viewed using ATC's MetaView software. All files displayed with files C204 and C208 generating error messages. Files C204 and C208 also displayed font problems which are part of MetaView.

The CGM files were reported as meeting the CALS MIL-D-28003 specification.

8. Conclusions and Recommendations

In summary, the tape from Northrop Corporation correct. The tape could be read properly using the AFCTN *Tapetool* and TI version without any reported errors. The physical structure of the tape meets the CALS MIL-STD-1840A requirements.

The IGES files meet the CALS MIL-D-28000A specifications.

Because of reported errors in the Text file, the SGML part of this tape does not meet the CALS MIL-M-28001A specification.

The Type II Raster file could not evaluated at the AFCTB.

The CGM files were reported as meeting the CALS MIL-D-28003 specification.

The tape does not meet the CALS MIL-STD-1840A requirements, because of minor errors in the text file.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Sun Mar 7 14:42:44 1993
MIL-STD-1840A File Catalog
File Set Directory: /cals/tapetool8/Set070

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D003	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000001	Extracted
D001G002	DTD	D/00260	02048/000034	Extracted
D001H003	Output Specification	D/00260	02048/000001	Extracted
D001R004	Raster	F/00128	02048/000008	Extracted
D002T001	Text	D/00260	02048/000001	Extracted
D002G002	DTD	D/00260	02048/000034	Extracted
D002H003	Output Specification	D/00260	02048/000001	Extracted
D002C004	CGM	F/00080	00800/000006	Extracted
D002C005	CGM	F/00080	00800/000002	Extracted
D002C006	CGM	F/00080	00800/000002	Extracted
D002C007	CGM	F/00080	00800/000002	Extracted
D002C008	CGM	F/00080	00800/000002	Extracted
D003T001	Text	D/00260	02048/000001	Extracted
D003G002	DTD	D/00260	02048/000034	Extracted
D003H003	Output Specification	D/00260	02048/000001	Extracted
D003Q004	IGES	F/00080	02000/000012	Extracted
D003Q005	IGES	F/00080	02000/000573	Extracted
D003Q006	IGES	F/00080	02000/000033	Extracted
D003Q007	IGES	F/00080	02000/000042	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

Air Force CALS Test Network Tape Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Sun Mar 7 14:42:02 1993

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01   CONTROLLER   4

  Label Identifier: VOL1
  Volume Identifier: ITDS01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001   ITDS0100010001000100 93057 93057 000000 CONTROLLER

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date: 93057
  Expiration Date: 93057
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: CONTROLLER

HDR2D0204800260   00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

```
************ Tape Mark ***************
```

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 1.

```
************ Tape Mark ***************
```

EOF1D001   ITDS0100010001000100 93057 93057 000001   CONTROLLER

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date: 93057
  Expiration Date: 93057
  File Accessibility:
  Block Count: 000001
  Implementation Identifier: CONTROLLER

EOF2D0204800260   00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

```
************ Tape Mark ***************
```

                    <<<<< PART OF LOG REMOVED HERE >>>>>

```
************ Tape Mark ***************
```

HDR1D003Q007   ITDS0100010022000100 93057 93057 000000   CONTROLLER

  Label Identifier: HDR1
  File Identifier: D003Q007
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0022
  Generation Number: 0001
  Generation Version Number: 00

Creation Date: 93057
Expiration Date: 93057
File Accessibility:
Block Count: 000000
Implementation Identifier: CONTROLLER

HDR2F0200000080   00

   Label Identifier: HDR2
   Recording Format: F
   Block Length: 02000
   Record Length: 00080
   Offset Length: 00

************ Tape Mark ***************

   Actual Block Size Found = 2000 Bytes.

   Number of data blocks read = 42.

************ Tape Mark ***************

EOF1D003Q007   ITDS0100010022000100 93057 93057 000042   CONTROLLER

   Label Identifier: EOF1
   File Identifier: D003Q007
   File Set Identifier: ITDS01
   File Section Number: 0001
   File Sequence Number: 0022
   Generation Number: 0001
   Generation Version Number: 00
   Creation Date: 93057
   Expiration Date: 93057
   File Accessibility:
   Block Count: 000042
   Implementation Identifier: CONTROLLER

EOF2F0200000080   00

   Label Identifier: EOF2
   Recording Format: F
   Block Length: 02000
   Record Length: 00080
   Offset Length: 00

************ Tape Mark ***************

************ Tape Mark ***************

############ End of Volume ITDS01 ##############

############ End Of Tape File Set ##############

Deallocating /dev/rmt0...

Tape Import Process terminated with 0 error(s), 0 warning(s), and 0 note(s).

9.3   Tape File Set Validation Log

Air Force CALS Test Network File Set Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Sun Mar 7 14:42:44 1993
MIL-STD-1840A File Set Evaluation Log
File Set: Set070

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division, L591/GK
srcdocid: STPRO25.11
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930126
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT, Techne
dstdocid: CALS_RAS_TEST
dstrelid: NONE
dtetrn: 19930226
dlvacc: NONE
filcnt: T1, H1, G1, R1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: JOB GUIDE
docttl: graphics test

Found file: D001T001
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: STPRO25.11
dstdocid: CALS_RAS_TEST
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE

Saving Text Header File: D001T001_HDR
Saving Text Data File: D001T001_TXT

Found file: D001G002
Extracting DTD Header Records...

Evaluating DTD Header Records...

srcdocid: STPRO25.11
dstdocid: CALS_RAS_TEST
notes: NONE

Saving DTD Header File: D001G002_HDR
Saving DTD Data File: D001G002_DTD

Found file: D001H003
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: STPRO25.11
dstdocid: CALS_RAS_TEST
notes: NONE

Saving Output Specification Header File: D001H003_HDR
Saving Output Specification Data File: D001H003_OS

Found file: D001R004
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: STPRO25.11
dstdocid: CALS_RAS_TEST
txtfilid: W
figid: NONE
srcgph: test2.ras
doccls: UNCLASSIFIED
rtype: 2
rorient: 000,270
rpelcnt: 002560,003584
rdensty: 0300
notes: NONE

Saving Raster Header File: D001R004_HDR
Saving Raster Data File: D001R004_GR4

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

Found file: D002

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D002.

Found file: D003

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

Found file: D003Q007
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: STPRO25.9
dstdocid: CALS_IGES_TEST
txtfilid: W
figid: NONE
srcgph: lgtable.igs
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D003Q007_HDR
Saving IGES Data File: D003Q007_IGS

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D003.
No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - Detailed IGES Analysis

10.1   File Q204

10.1.1   Parser/Verifier Log

```
        *** IGES DATA FILE ANALYSIS ***
        ***         MARCH 1992         ***
        ***    IGES Data Analysis      ***
        ***       (708) 449-3430       ***


 Input file is /novell/9318/q304.igs

 Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

 Today is March 7, 1993  3:33 PM

*** File and Product Name Information ***

   File name from sender    = 'apple2d.igs'
   File creation Date.Time   = '930225.134248'
   Model change Date.Time    = ''
   Author                    = 'tom'
   Department                = 'GRAPHICS'
   Product name from sender = 'apple2d.igs'
   Destination product name = 'apple2d.igs'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID             = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version  = '1.0'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =     32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***
```

```
Model scale            =   1.0000E+00
Unit flag              =   1
Units                  =   'IN'
Line weights           =   3
Maximum line thickness =   1.152632E-02
Minimum line thickness =   3.842107E-03
Granularity            =   1.000000E-03
Maximum coordinate     =   2.954101E+00
```

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

```
Blank status: Visible                      41
              Blanked                       0

Independence: Independent                  39
              Physically Subordinate        0
              Logically Subordinate         2
              Totally Subordinate           0

Entity use:   Geometry                     39
              Annotation                    2
              Definition                    0
              Other                         0
              Logical/Positional            0
              2D parametric                 0
              Not Specified                 0

Hierarchy:    Structure DE applies          0
              Subordinate DE applies       41
              Hierarchy property applies    0
              Not Specified                 0
```

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
106 path)	11	0	24	Copious data - Piecewise planar, linear string(2D
106	63	0	8	Simple closed planar curve
110	0	0	6	Line
404	0	0	1	Drawing
406	16	0	1	Property - Drawing size

```
    410        0        0        1      View - Orthographic parallel
```

*** Entity Count by Level ***

```
   Level  Count
      0     41
```

*** Labeling Information ***

   0% of the entities are labeled.

```
   Unlabeled        41
```

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
-	-	-	32	-	6	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	31	(0.0038)
2	10	(0.0077)

*** Colors Used in Data ***

Defaulted	3
Red	8
Green	30

```
******************************
******  ENTITY ANALYSIS  ******
******************************
```

*** Entity type: 106

*** Entity type: 110

  --   6 lines averaging 1.362447E-01 units --

*** Entity type: 404

Drawing at D   5 contains 1 views.
Drawing at D   5 contains 0 annotation entities.

 *** Entity type: 406

*** Entity type: 410

  Scale of view at D   1 is 1.000000E+00.
Orthographic View entity at D   1 has 0 clipping planes specified.
   XMIN = Not Set   XMAX = Not Set
   YMIN = Not Set   YMAX = Not Set
   ZMIN = Not Set   ZMAX = Not Set

 *** Message Summary ***

 *** Error Summary ***

```
0 fatal errors
0 severe errors
0 errors
0 warnings
0 cautions
0 nitpicks
0 notes
```

*** End of Analysis of /novell/9318/q304.igs ***

10.1.2 Output IGESWorks
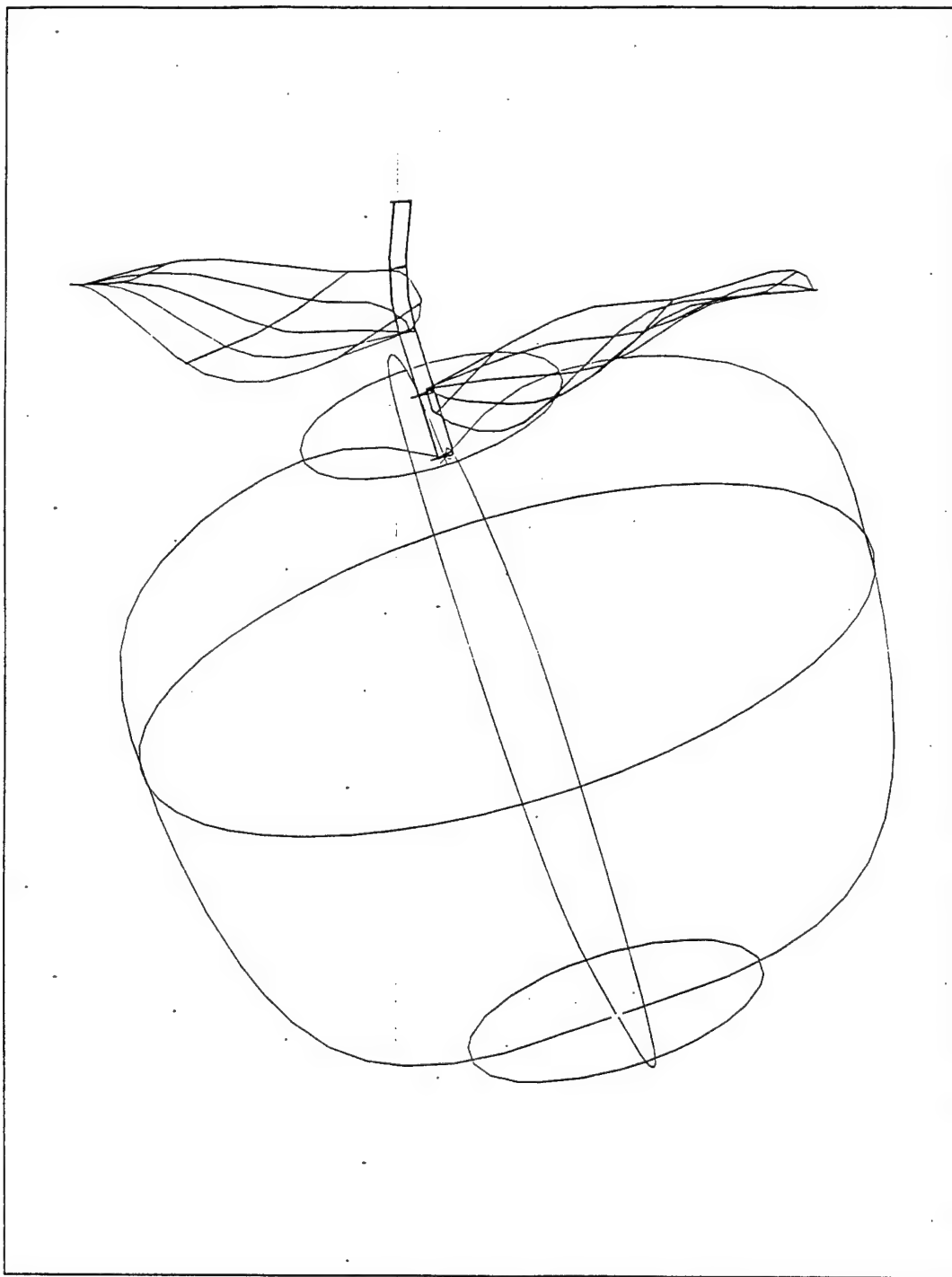
10.1.3 Output IGESView
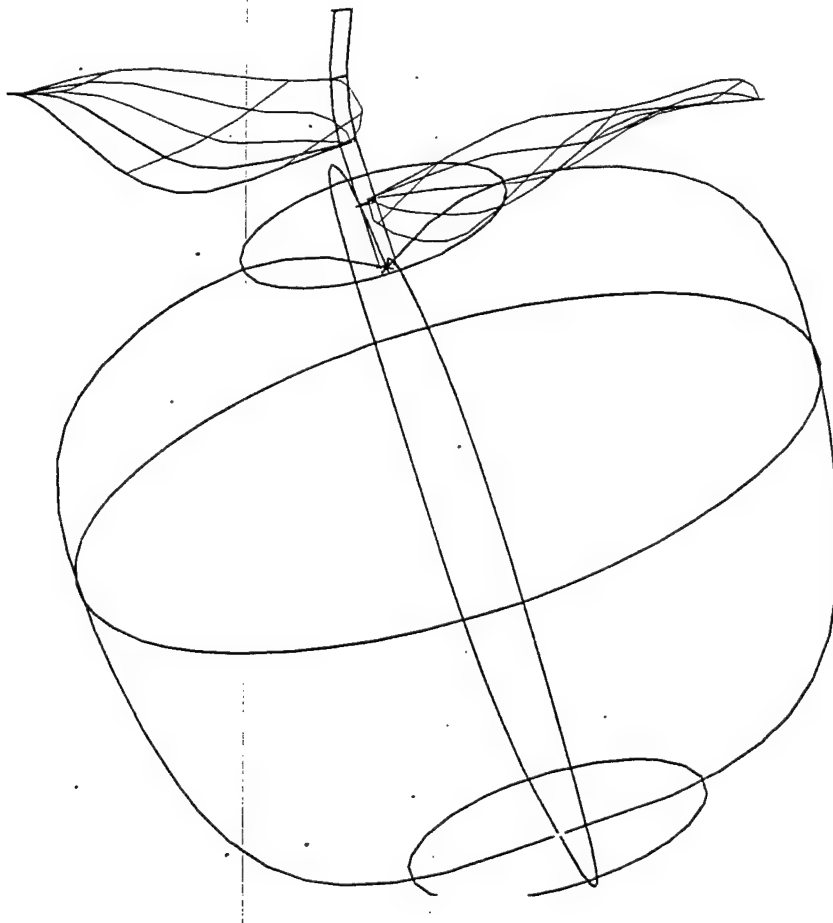
10.1.4   Output iges2draw/IslandDraw

10.2   File Q205

10.2.1   Parser/Verifier Log

```
            *** IGES DATA FILE ANALYSIS ***
            ***         MARCH 1992        ***
            ***    IGES Data Analysis     ***
            ***       (708) 449-3430      ***
```

Input file is /novell/9318/q305.igs

Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

Today is March 7, 1993 3:34 PM

*** File and Product Name Information ***

```
   File name from sender   = 'classic2d.igs'
   File creation Date.Time  = '930225.134304'
   Model change Date.Time   = ''
   Author                   = 'Boardhead'
   Department               = 'WINDY'
   Product name from sender = 'classic2d.igs'
   Destination product name = 'classic2d.igs'
```

*** Parameter Delimiters ***

```
   Delimiter  = ','
   Terminator = ';'
```

*** Originating System Data ***

```
   System ID              = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version   = '1.0'
   Specification version  = 6 (IGES 4.0)
```

*** Precision levels ***
```
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15
```

*** Global Model Data ***

```
   Model scale            = 1.0000E+00
   Unit flag              = 2
```

```
Units                  =   'MM'
Line weights           =   3
Maximum line thickness =   3.520439E+00
Minimum line thickness =   1.173480E+00
Granularity            =   1.000000E-03
Maximum coordinate     =   8.782127E+02
```

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status:	Visible	2988
	Blanked	0
Independence:	Independent	2986
	Physically Subordinate	0
	Logically Subordinate	2
	Totally Subordinate	0
Entity use:	Geometry	2518
	Annotation	470
	Definition	0
	Other	0
	Logical/Positional	0
	2D parametric	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	2988
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	242	Circular arc
104	1	0	15	Conic arc - ellipse
106	11	0	123	Copious data - Piecewise planar, linear string(2D path)
106	63	0	82	Simple closed planar curve
110	0	0	2024	Line
112	0	0	16	Parametric spline curve
124	0	0	15	Transformation matrix
212	0	0	468	General note

```
404         0         0         1    Drawing
406        16         0         1    Property - Drawing size
410         0         0         1    View - Orthographic parallel
```

*** Entity Count by Level ***

```
Level   Count
   0    2988
```

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled   2988

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
237	-	15	205	-	1765	16	-	Solid
4	-	-	-	-	97	-	-	Dashed
1	-	-	-	-	145	-	-	Phantom
-	-	-	-	-	17	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	15	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	486	(1.1735)
2	2179	(2.3470)
1	323	(1.1735)

*** Colors Used in Data ***

Defaulted	18
Red	965
Green	8
Blue	106
Yellow	1765
Magenta	65
White	61

```
******************************
******  ENTITY ANALYSIS  ******
******************************
```

*** Entity type: 100

*** Entity type: 104

WARNING 2265: Start point off conic by 8.961375E-03 at D   381.
WARNING 2039: End point off conic by 2.300953E-02 at D   381.

<<<<< PART OF LOG REMOVED HERE >>>>>

*** Entity type: 106

*** Entity type: 110

  -- 2024 lines averaging 1.694140E+01 units --

*** Entity type: 112

*** Entity type: 124

15 transformation matrices, 15 non-zero translations. NOTE   2341: 15 matrices contain translation information.

  *** Entity type: 212

      468 text strings in data file. Average text aspect ratio in file is 1.0159167. Minimum text aspect ratio in file is 0.7623555. Maximum text aspect ratio in file is 1.1000000.

      FONTS USED IN FILE

      FONT   COUNT   NAME

        1   468   Default ASCII Style

  *** Entity type: 404

Drawing at D   5 contains 1 views. Drawing at D   5 contains 0 annotation entities.

  *** Entity type: 406

  *** Entity type: 410

  Scale of view at D   1 is 1.000000E+00. Orthographic View entity at D
1 has 0 clipping planes specified. XMIN = Not Set   XMAX = Not Set YMIN
  = Not Set   YMAX = Not Set ZMIN = Not Set   ZMAX = Not Set

  *** Message Summary ***

2015: 18 Mathematically incorrect definitions.

  *** Error Summary ***

      0 fatal errors 0 severe errors 0 errors 18 warnings 0 cautions 0 nitpicks 1 notes

  *** End of Analysis of /novell/9318/q305.igs ***

10.2.2 Output IGESWorks
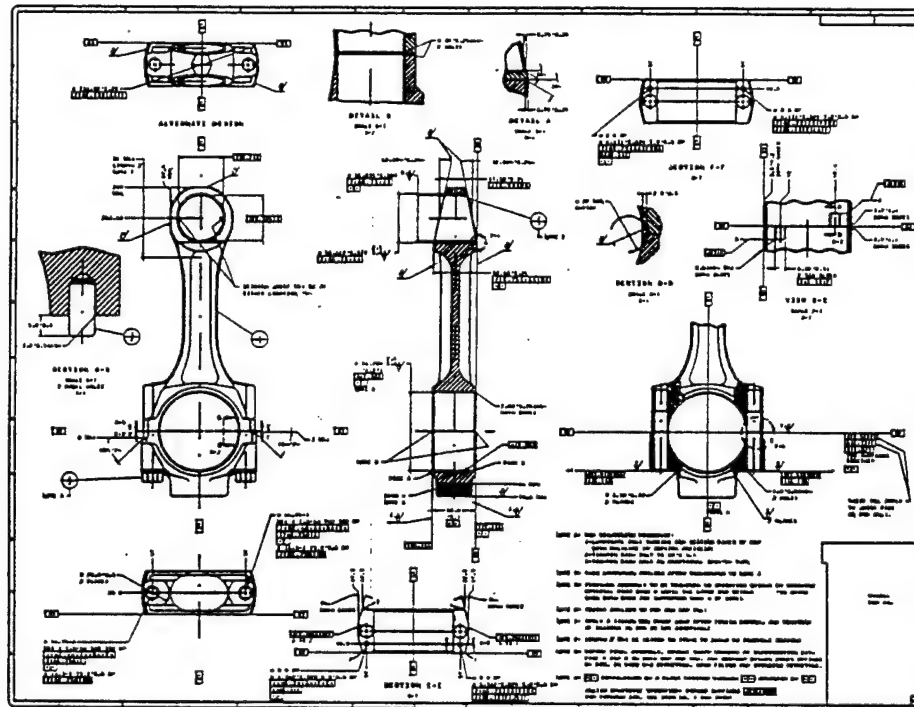
10.2.3   Output IGESView
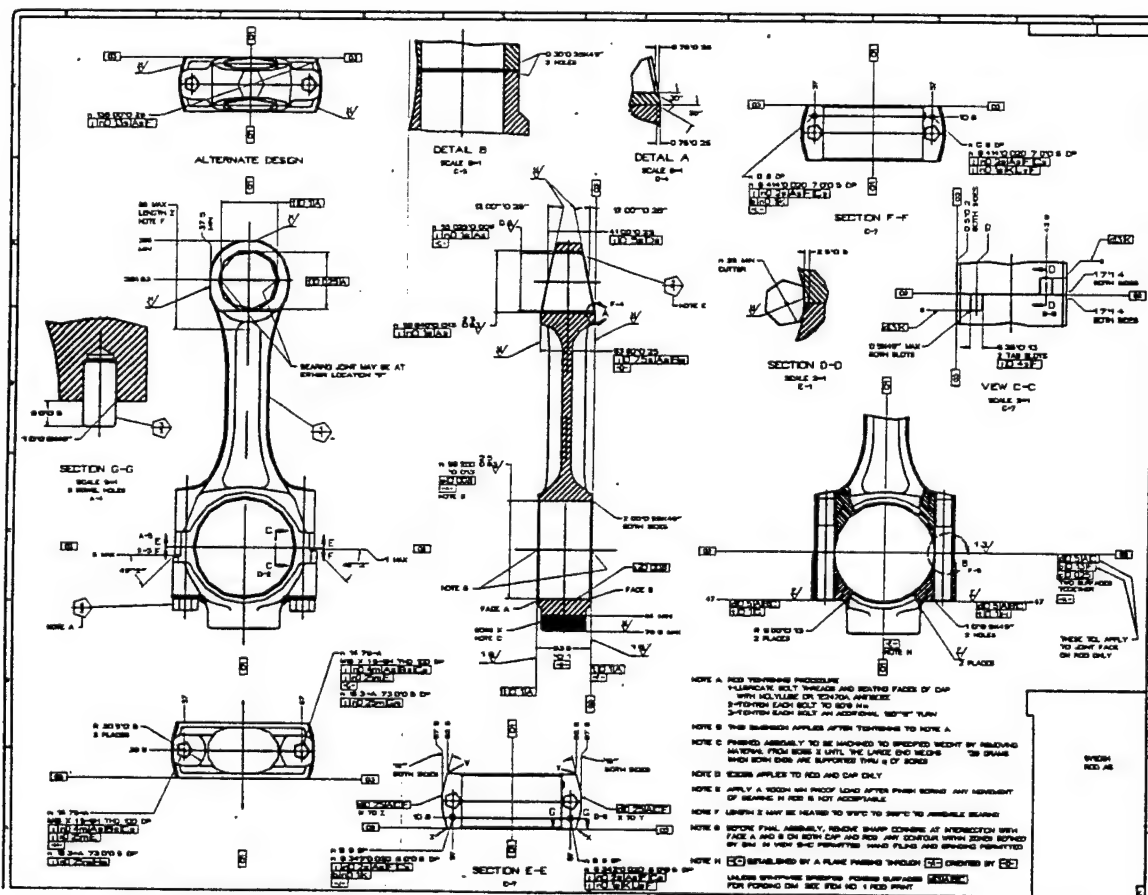
10.3 File Q206

10.3.1 Parser/Verifier Log

```
        *** IGES DATA FILE ANALYSIS ***
        ***         MARCH 1992        ***
        ***    IGES Data Analysis     ***
        ***       (708) 449-3430      ***
```

 Input file is /novell/9318/q306.igs

 Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

 Today is March 7, 1993 3:34 PM

*** File and Product Name Information ***

```
   File name from sender    = 'ientity.igs'
   File creation Date.Time   = '930225.134222'
   Model change Date.Time    = ''
   Author                    = 'KASSEL'
   Department                = 'Air Force CALS Test Network'
   Product name from sender  = 'ientity.igs'
   Destination product name  = 'ientity.igs'
```

*** Parameter Delimiters ***

```
   Delimiter  = ','
   Terminator = ';'
```

*** Originating System Data ***

```
   System ID             = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version  = '1.0'
   Specification version = 6 (IGES 4.0)
```

*** Precision levels ***
```
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15
```

*** Global Model Data ***

```
   Model scale           = 1.0000E+00
   Unit flag             = 1
```

```
    Units                  =  'IN'
    Line weights           =  1
    Maximum line thickness =  1.680104E-02
    Minimum line thickness =  1.680104E-02
CAUTION 2317: Maximum line thickness equal to minimum thickness.
    Granularity            =  1.000000E-03
    Maximum coordinate     =  1.690002E+01
```

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status:	Visible	200
	Blanked	0
Independence:	Independent	185
	Physically Subordinate	12
	Logically Subordinate	3
	Totally Subordinate	0
Entity use:	Geometry	67
	Annotation	132
	Definition	1
	Other	0
	Logical/Positional	0
	2D parametric	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	200
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	3	Circular arc
102	0	0	1	Composite curve
104	1	0	2	Conic arc - ellipse
104	2	0	1	Conic arc - hyperbola
104	3	0	1	Conic arc - parabola
106	11	0	1	Copious data - Piecewise planar, linear string(2D path)
106	63	0	1	Simple closed planar curve

110	0	0	27	Line
112	0	0	2	Parametric spline curve
124	0	0	12	Transformation matrix
126	0	0	6	Rational B-spline curve
212	0	0	129	General note
230	0	0	1	Sectioned area (Standard Crosshatching)
308	0	0	1	Subfigure definition
404	0	0	1	Drawing
406	16	0	1	Property - Drawing size
406	18	0	1	Property - Intercharacter spacing
408	0	0	8	Single subfigure instance
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	200

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled   200

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
3	1	4	2	-	27	2	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	12	-	-	-	Undefined
-	-	-	-	-	-	6	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

```
130  132  134  136  138  140  142  144
```

-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	200	(0.0168)

*** Colors Used in Data ***

Defaulted	25
Red	175


```
*******************************
******  ENTITY ANALYSIS  ******
*******************************
```

*** Entity type: 100

*** Entity type: 102

*** Entity type: 104

WARNING 2265: Start point off conic by 2.666563E-03 at D   23.
WARNING 2265: Start point off conic by 1.456414E-03 at D   27.

*** Entity type: 106

*** Entity type: 110

  --   27 lines averaging 7.155336E+00 units --

*** Entity type: 112

*** Entity type: 124

12 transformation matrices, 4 non-zero translations.
NOTE   2341: 4 matrices contain translation information.

 *** Entity type: 126

*** Entity type: 212

        129 text strings in data file.
        Average text aspect ratio in file is 0.9982937.
        Minimum text aspect ratio in file is 0.7978667.
        Maximum text aspect ratio in file is 1.4857143.

        FONTS USED IN FILE

        FONT   COUNT   NAME

           1   127   Default ASCII Style
        1002   2   Symbol Font 2

 *** Entity type: 230

 *** Entity type: 308

  Subfigure name at D   19: 'subfig0'.
    Number of included entities = 6.

 *** Entity type: 404

Drawing at D   5 contains 1 views.
Drawing at D   5 contains 0 annotation entities.

 *** Entity type: 406

 *** Entity type: 408

   Subfigure instance at D   363 references subfigure at D   19.
   Subfigure instance at D   373 references subfigure at D   19.
   Subfigure instance at D   377 references subfigure at D   19.
   Subfigure instance at D   381 references subfigure at D   19.
   Subfigure instance at D   385 references subfigure at D   19.
   Subfigure instance at D   389 references subfigure at D   19.

Subfigure instance at D   393 references subfigure at D   19.
Subfigure instance at D   397 references subfigure at D   19.

*** Entity type: 410

Scale of view at D   1 is 1.000000E+00.
Orthographic View entity at D   1 has 0 clipping planes specified.
   XMIN = Not Set   XMAX = Not Set
   YMIN = Not Set   YMAX = Not Set
   ZMIN = Not Set   ZMAX = Not Set

*** Message Summary ***

2015: 2 Mathematically incorrect definitions.
2018: 1 Problems with line weight/width display information.

*** Error Summary ***

   0 fatal errors
   0 severe errors
   0 errors
   2 warnings
   1 cautions
   0 nitpicks
   1 notes

*** End of Analysis of /novell/9318/q306.igs ***

10.3.2 Output IGESWorks

10.3.3 Output IGESView

10.3.4 Output iges2draw/IslandDraw

CIRCULAR ARC (100)	COMPOSITE CURVE (102)	CONIC ARC - GENERAL (104 FORM 0)	CONIC ARC - ELLIPSE (104 FORM 1)	CONIC ARC - HYPERBOLA (104 FORM 2)	CONIC ARC - PARABOLA (104 FORM 3)	LINEAR PLANAR CURVE (106 FORM 11)	SIMPLE CLOSED AREA (106 FORM 63)
LINE (110)	PARAMETRIC SPLINE CURVE (112)	TRANSFORMATION MATRIX 0x1 (124 FORM 0)	RATIONAL B-SPLINE CURVE (126 FORM 0)	RATIONAL B-SPLINE CURVE LINE (126 FORM 1)	RATIONAL B-SPLINE CURVE CIRCULAR ARC (126 FORM 2)	RATIONAL B-SPLINE CURVE ELLIPTICAL ARC (126 FORM 3)	RATIONAL B-SPLINE CURVE PARABOLIC ARC (126 FORM 4)
RATIONAL B-SPLINE CURVE HYPERBOLIC ARC (126 FORM 5)	SIMPLE — GENERAL NOTE - SIMPLE (212 FORM 0)	DUAL STACK — NOTE - DUAL STACK (212 FORM 1)	IM--DED — NOTE - IMBEDDED FONT CHANGE (212 FORM 2)	s^{SUPER} — NOTE - SUPERSCRIPT (212 FORM 3)	S_{SUB} — NOTE - SUBSCRIPT (212 FORM 4)	s^{SUPER}_{SUB} — NOTE - SUPER/SUB SCRIPT (212 FORM 5)	M STACK LEFT — NOTE - MULTI STACK LEFT JUST (212 FORM 6)
M STACK CENTER — NOTE - MULTI STACK CENT JUST (212 FORM 7)	M STACK RIGHT — NOTE - MULTI STACK RIGHT JUST (212 FORM 8)	s^{FRAC}_{TION} — NOTE - SIMPLE FRACTION (212 FORM 100)	DUAL $\frac{TO}{P}$ STACK $\frac{BOT}{TOM}$ — NOTE - DUAL STACK FRACTION (212 FORM 101)	IM $\frac{BED}{DED}$ - FR $\frac{ACT}{ION}$ — NOTE - FONT/DOUBLE FRACTION (212 FORM 102)	FR $\frac{SUP}{SUB}$ BO $\frac{TT}{OM}$ — NOTE - SUPER/SUB FRACTION (212 FORM 105)	SECTIONED AREA (230)	SPACING — INTERCHARACTER SPACING (406 FORM 18)
SINGLE SUBFIGURE INSTANCE (408)	RECTANGULAR SUBFIGURE INSTANCE (412)	CIRCULAR SUBFIGURE INSTANCE (414)					OALS TEST NETWORK MIL-D-28000 CLASS I REFERENCE DRAWING I-ENTITY

10.4   File Q207

10.4.1   Parser/Verifier Log

```
          *** IGES DATA FILE ANALYSIS ***
          ***        MARCH 1992        ***
          ***    IGES Data Analysis    ***
          ***       (708) 449-3430     ***

  Input file is /novell/9318/q307.igs

  Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

  Today is March 7, 1993  3:34 PM

*** File and Product Name Information ***

    File name from sender    = 'lgtable.igs'
    File creation Date.Time   = '930225.134240'
    Model change Date.Time    = ''
    Author                    = 'FARRELL'
    Department                = 'Air Force CALS Test Network'
    Product name from sender = 'lgtable.igs'
    Destination product name = 'lgtable.igs'

*** Parameter Delimiters ***

    Delimiter  = ','
    Terminator = ';'

*** Originating System Data ***

    System ID              = 'ITDS CONVERTER: GEF_IGES'
    Preprocessor version  = '1.0'
    Specification version = 6 (IGES 4.0)

*** Precision levels ***
    Integer bits =    32
    Floating point  -  Exponent =    38  Mantissa =     6
    Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***

    Model scale            =  1.0000E+00
    Unit flag              =  1
```

```
Units                     =   'IN'
Line weights              =   5
Maximum line thickness    =   4.735348E-02
Minimum line thickness    =   9.470696E-03
Granularity               =   1.000000E-03
Maximum coordinate        =   9.391507E+00
```

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status:	Visible	280
	Blanked	0

Independence:	Independent	267
	Physically Subordinate	11
	Logically Subordinate	2
	Totally Subordinate	0

Entity use:	Geometry	226
	Annotation	54
	Definition	0
	Other	0
	Logical/Positional	0
	2D parametric	0
	Not Specified	0

Hierarchy:	Structure DE applies	0
	Subordinate DE applies	280
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	85	Circular arc
102	0	0	2	Composite curve
104	1	0	5	Conic arc - ellipse
110	0	0	116	Line
112	0	0	12	Parametric spline curve
124	0	0	5	Transformation matrix
212	0	0	47	General note
230	0	0	5	Sectioned area (Standard Crosshatching)
404	0	0	1	Drawing

```
406        16         0         1     Property - Drawing size
410         0         0         1     View - Orthographic parallel
```

*** Entity Count by Level ***

```
Level  Count
    0    280
```

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled   280

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
85	2	5	-	-	107	12	-	Solid
-	-	-	-	-	9	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	5	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	73	(0.0095)
3	22	(0.0284)
2	123	(0.0189)
4	62	(0.0379)

*** Colors Used in Data ***

Defaulted	196
Blue	22
Cyan	62

```
********************************
******  ENTITY ANALYSIS  ******
********************************
```

*** Entity type: 100

*** Entity type: 102

*** Entity type: 104

WARNING 2265: Start point off conic by 7.999625E-03 at D   73.
WARNING 2265: Start point off conic by 1.788987E-02 at D   81.
WARNING 2039: End point off conic by 1.581491E-03 at D   81.
WARNING 2265: Start point off conic by 1.594810E-02 at D   141.
WARNING 2265: Start point off conic by 3.114898E-02 at D   191.

*** Entity type: 110

  --   116 lines averaging 5.326830E-01 units --

*** Entity type: 112

*** Entity type: 124

5 transformation matrices, 5 non-zero translations.
NOTE   2341: 5 matrices contain translation information.

*** Entity type: 212

     47 text strings in data file.
     Average text aspect ratio in file is 0.7899129.
     Minimum text aspect ratio in file is 0.7580039.
     Maximum text aspect ratio in file is 1.0525425.

     FONTS USED IN FILE

     FONT   COUNT   NAME

       1   47   Default ASCII Style

*** Entity type: 230

*** Entity type: 404

Drawing at D   5 contains 1 views.
Drawing at D   5 contains 0 annotation entities.

*** Entity type: 406

*** Entity type: 410

  Scale of view at D   1 is 1.000000E+00.
Orthographic View entity at D   1 has 0 clipping planes specified.
   XMIN = Not Set   XMAX = Not Set
   YMIN = Not Set   YMAX = Not Set
   ZMIN = Not Set   ZMAX = Not Set

*** Message Summary ***

2015: 5 Mathematically incorrect definitions.

*** Error Summary ***

    0 fatal errors
    0 severe errors
    0 errors
    5 warnings
    0 cautions
    0 nitpicks
    1 notes

*** End of Analysis of /novell/9318/q307.igs ***

10.4.2 Output IGESWorks
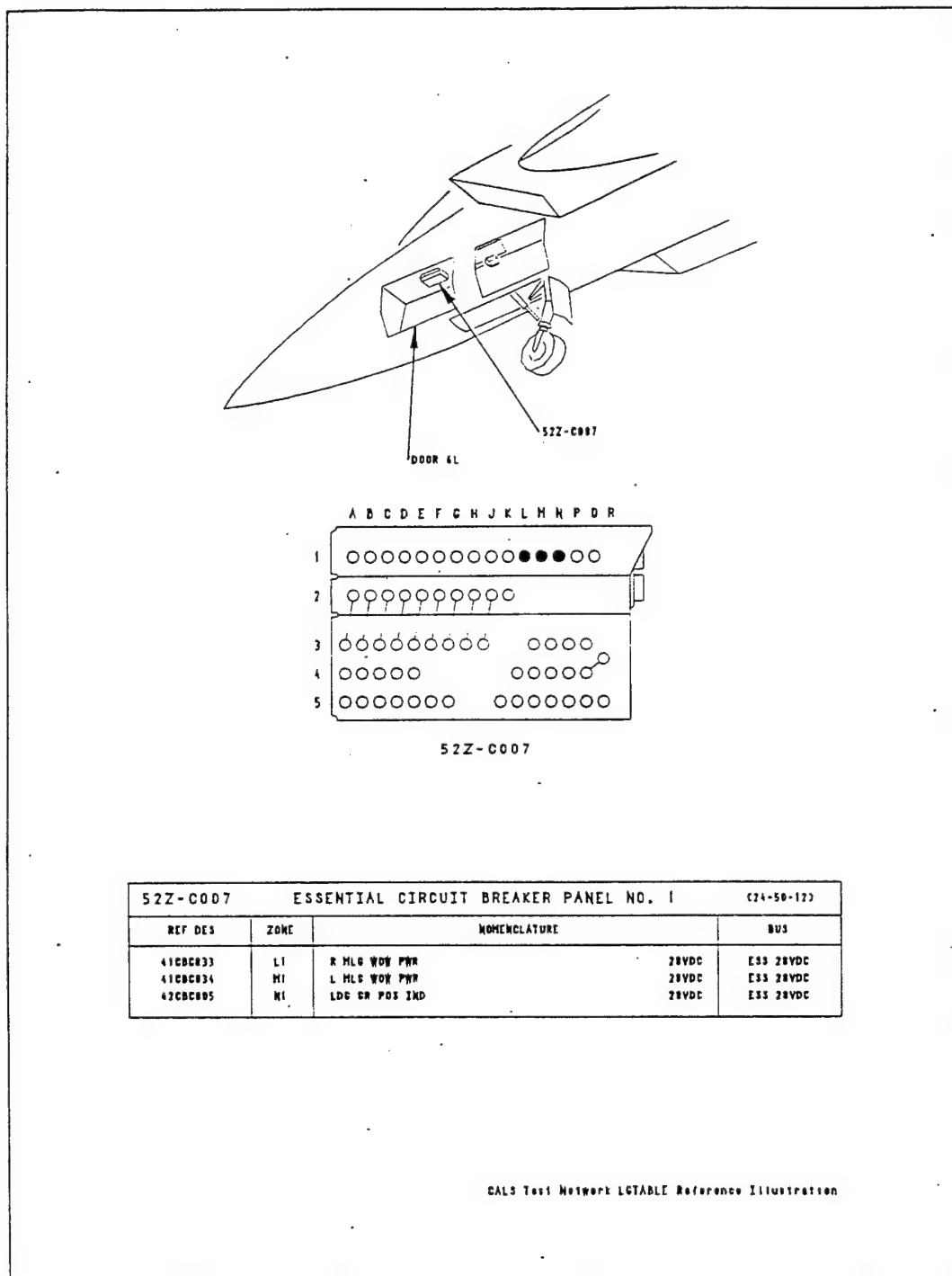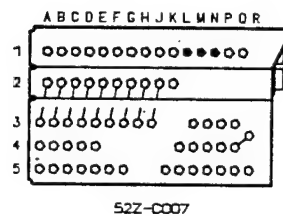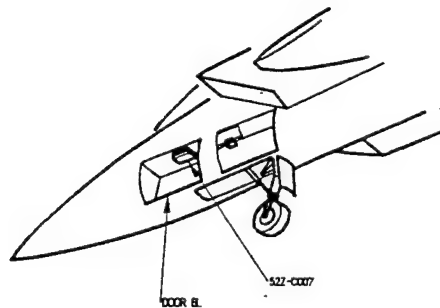
52Z-C007		ESSENTIAL CIRCUIT BREAKER PANEL NO. 1		(24-50-12)
REF DES	ZONE	NOMENCLATURE		BUS
41CBC033	L1	R MLG WOW PWR	28VDC	ESS 28VDC
41CBC034	M1	L MLS WOW PWR	28VDC	ESS 28VDC
42CBC005	N1	LDG GR POS IND	28VDC	ESS 28VDC

CALS Test Network LGTABLE Reference Illustration

10.4.3 Output IGESView

DOOR BL   52Z-C007

ABCDEFGHJKLMNPOR

52Z-C007

52Z-C007		ESSENTIAL CIRCUT BREAKER PANEL NO. 1		(24-50-12)
REF DES	ZONE	NOMENCLATURE		BUS
41C8C033	L1	R MLG WOW PWR	28VDC	ESS 28VDC
41C8C034	M1	L MLG WOW PWR	28VDC	ESS 28VDC
42C8C005	N1	LDG GR POS ND	28VDC	ESS 28VDC

10.4.4 Output iges2draw/IslandDraw

52Z-C007

DOOR 6L

52Z-C007

52Z-C007	ESSENTIAL CIRCUIT BREAKER PANEL NO. 1		(24-50-1
REF DES	ZONE	NOMENCLATURE	BUS
41CBC033	L1	R MLG WOW PWR 28VDC	ESS 28VD
41CBC034	M1	L MLG WOW PWR 28VDC	ESS 28VD
42CBC005	N1	LDG GR POS IND 28VDC	ESS 28VD

CALS Test Network LGTABLE Reference illustr

11. Appendix C - Detailed SGML Analysis

11.1 Datalogics Parser Log

```
                    SGML Document Type Definition Parser
                              Version 3.36
                Copyright (c) Datalogics 1988, 1989, 1990, 1991
                         An SGML System Conforming to
                      International Standard ISO 8879
                      Standard Generalized Markup Language


Log file: '9316.LOG'
SDO File: 'ctndecl.sdo'
Namecase General is yes.
Namecase Entity is no.
Parsing DTD file: '9316.dtd'

DTD0095: Start tag for element 'DATABASE' cannot be omitted if the
         element had declared content (CDATA, RCDATA, EMPTY).
DTD0095: Start tag for element 'MEDIUM' cannot be omitted if the
         element had declared content (CDATA, RCDATA, EMPTY).
DTD0096: The generic ID SHORTTITLE has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID CONTASSURPG has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID REFDOC has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID CFGPGE has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID COVERINDEX has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID STALOC has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID TESTCODE has not been used in any content
         model, inclusion, or as a doctype element.
This DTD conforms to the ISO 8879 standard

DTO file '9316.DTO' created

closing statistics:
    Capacity points:               71912
    Bytes of DTO file string space: 12664
    SGML descriptor blocks:        7101

Document Type Definition is compliant and parsed normally.
Program status code: 0.
```

12.   Appendix E - Detailed CGM Analysis

12.1   File C204

12.1.1   Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93     Time:  15:05:03

Metafile Examined    : i:\9318\c204.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

====================== Trace Report =========================

Tracing not selected.

============= CGM Conformance Violation Report =============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ===========

No profile discrepancies detected.

================ Conformance Summary Report ================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93     Time:  15:05:05

Name of CGM under test: i:\9318\c204.cgm
Encoding               : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : "allreal.cgm"
METAFILE DESCRIPTION  : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"
```

Picture 1 starts at octet offset 202; string contains: "Picture 1"

Conformance Summary : This file conforms to the CGM specification.

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

      1 Pictures Tested
   272 Elements Tested
 3980 Octets Tested

```
====================================
|     No Errors Were Detected     |
====================================
```

================= End of Conformance Report ===================
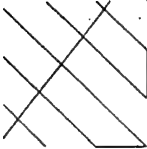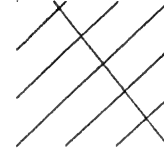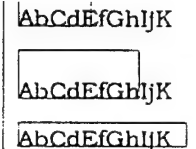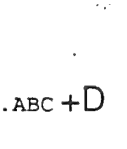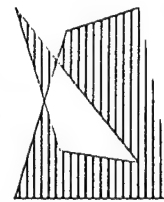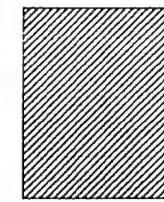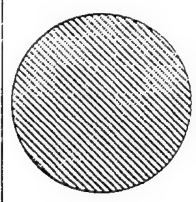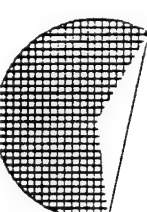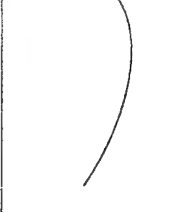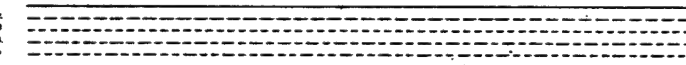
12.1.2   validcgm Log

Analysis for file c204.cgm using table table
ERROR: illegal in this state (2), std B
ERROR: required precursor (0, 4) not yet seen
(14.1, 0)   (3, 6, 2)   Clip Indicator OFF
MILSPEC 28003 error: illegal hatch index
(173, 2354)   (5, 24, 2)   Hatch Index 6
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(1, 12) occurred 1 time
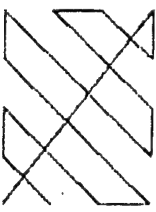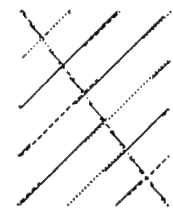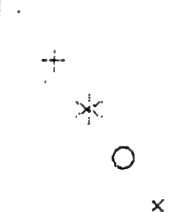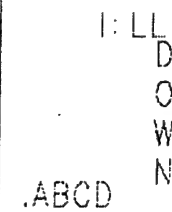(1, 13) occurred 1 time
(2, 2) occurred 1 time
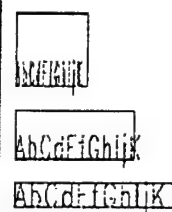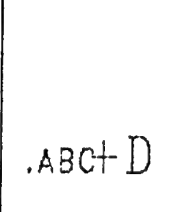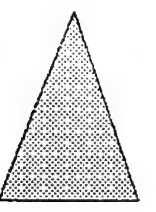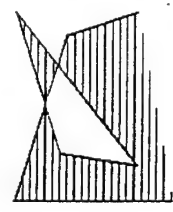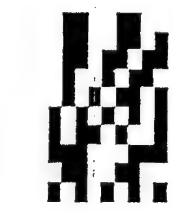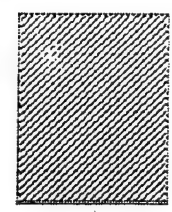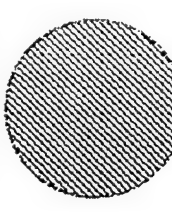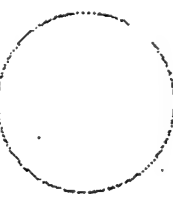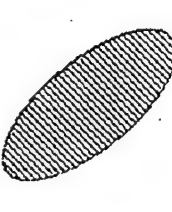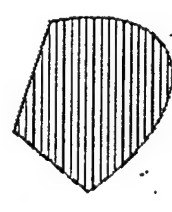
```
(2,  6) occurred 1 time
(2,  7) occurred 1 time
(3,  2) occurred 1 time
(3,  6) occurred 1 time
(3,  6) occurred illegally 1 time
(4,  1) occurred 32 times
(4,  3) occurred 5 times
(4,  4) occurred 50 times
(4,  7) occurred 3 times
(4,  9) occurred 1 time
(4, 12) occurred 2 times
(4, 15) occurred 3 times
(4, 16) occurred 2 times
(4, 17) occurred 2 times
(4, 18) occurred 2 times
(4, 19) occurred 1 time
(5,  2) occurred 17 times
(5,  3) occurred 17 times
(5,  4) occurred 17 times
(5,  6) occurred 5 times
(5,  7) occurred 5 times
(5,  8) occurred 5 times
(5, 10) occurred 3 times
(5, 12) occurred 5 times
(5, 13) occurred 1 time
(5, 14) occurred 7 times
(5, 15) occurred 5 times
(5, 16) occurred 7 times
(5, 17) occurred 4 times
(5, 18) occurred 1 time
(5, 22) occurred 10 times
(5, 23) occurred 8 times
(5, 24) occurred 7 times
(5, 27) occurred 2 times
(5, 28) occurred 2 times
(5, 29) occurred 2 times
(5, 30) occurred 10 times
(5, 31) occurred 7 times
(5, 34) occurred 1 time
```

12.1.3 Output Harvard Graphics

9318 - HG305 - C204

12.1.4 Output IslandDraw

POLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
POLYGON	(8) POLYGON SET	(9) CELL ARRAY	(11) RECTANGLE	(12) CIRCLE	(13) CIRCULAR ARC 3 POINT
) CIRCULAR ARC 3 POINT CLOSE	(15) CIRCULAR ARC CENTRE	(16) CIRCULAR ARC CENTRE CLOSE	(17) ELLIPSE	(18) ELLIPTICAL ARC	(19) ELLIPTICAL ARC CLOSE

LINE TYPE

CALS TEST NETWORK
MIL-D-28003
Computer Graphics Metafile
File: CTN-01Rd, 91-10-03

12.1.5 Output cgm2draw/IslandDraw

1) POLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
7) POLYGON	(8) POLYGON SET	(9) CELL ARRAY	(11) RECTANGLE	(12) CIRCLE	(13) CIRCULAR ARC 3 PO
14) CIRCULAR ARC 3 POINT CLOSE	(15) CIRCULAR ARC CENTRE	(16) CIRCULAR ARC CENTRE CLOSE	(17) ELLIPSE	(18) ELLIPTICAL ARC	(19) ELLIPTIC. ARC CLOS

LINE TYPE

CALS TEST NETWORK
MIL-D-28003
Computer Graphics Metafile
File: CTN-01Rd, 91-10-03

12.2   File C205

12.2.1   Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93     Time:  15:05:13

Metafile Examined    : i:\9318\c205.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

====================== Trace Report =========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ===========

No profile discrepancies detected.

================ Conformance Summary Report ================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93     Time:  15:05:15

Name of CGM under test: i:\9318\c205.cgm
Encoding             : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : "arcs.cgm"
METAFILE DESCRIPTION  : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 154; string contains: "Picture 1"

Conformance Summary  :  This file conforms to the CGM specification.
```

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

```
  1 Pictures Tested
 62 Elements Tested
942 Octets Tested
```

```
===================================
|     No Errors Were Detected     |
===================================
```

================= End of Conformance Report ==================

12.2.2   validcgm Log

```
Analysis for file c205.cgm using table table
ERROR: illegal in this state (2), std B
ERROR: required precursor (0, 4) not yet seen
(14.1, 0)        (3, 6, 2)      Clip Indicator OFF
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(1, 12) occurred 1 time
(1, 13) occurred 1 time
(2, 2) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 2) occurred 1 time
(3, 6) occurred 1 time
(3, 6) occurred illegally 1 time
```

(4, 1) occurred 2 times
(4, 3) occurred 3 times
(4, 12) occurred 5 times
(4, 15) occurred 4 times
(4, 17) occurred 4 times
(4, 18) occurred 2 times
(5, 2) occurred 5 times
(5, 3) occurred 5 times
(5, 4) occurred 4 times
(5, 6) occurred 2 times
(5, 7) occurred 1 time
(5, 8) occurred 1 time
(5, 22) occurred 1 time
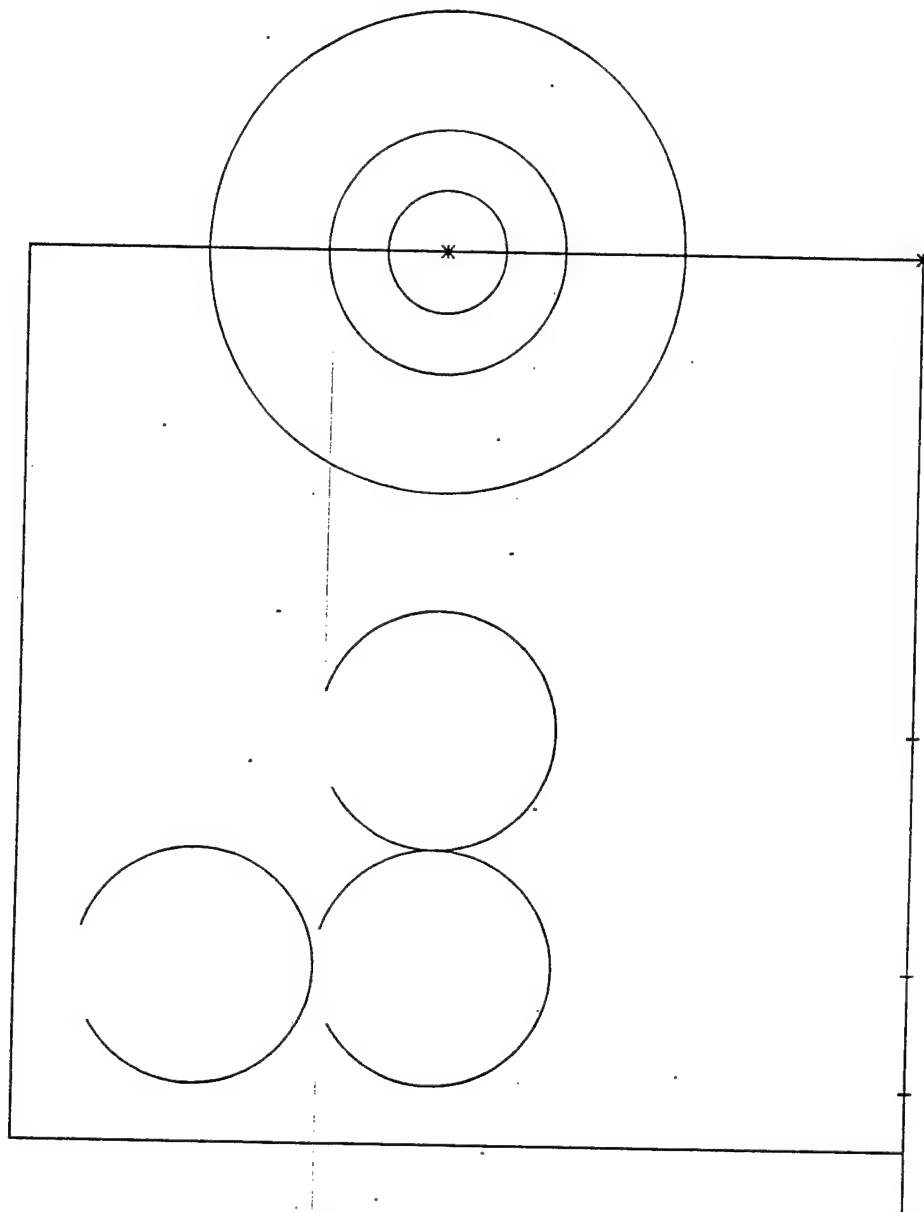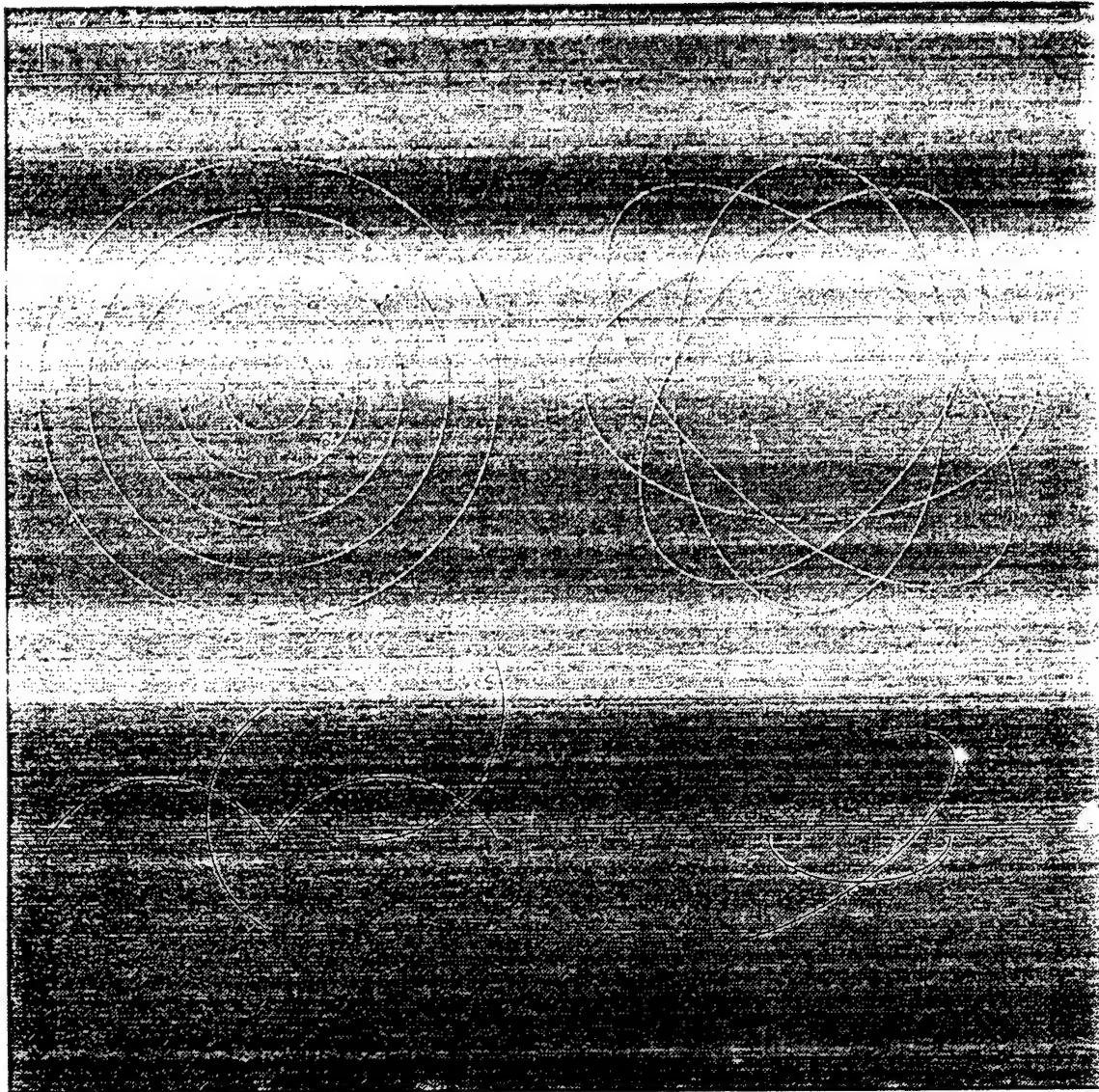(5, 23) occurred 1 time
(5, 34) occurred 1 time

12.2.3   Output Harvard Graphics

9318 - HG305 - C205

12.2.4 Output IslandDraw

12.2.5 Output cgm2draw/IslandDraw
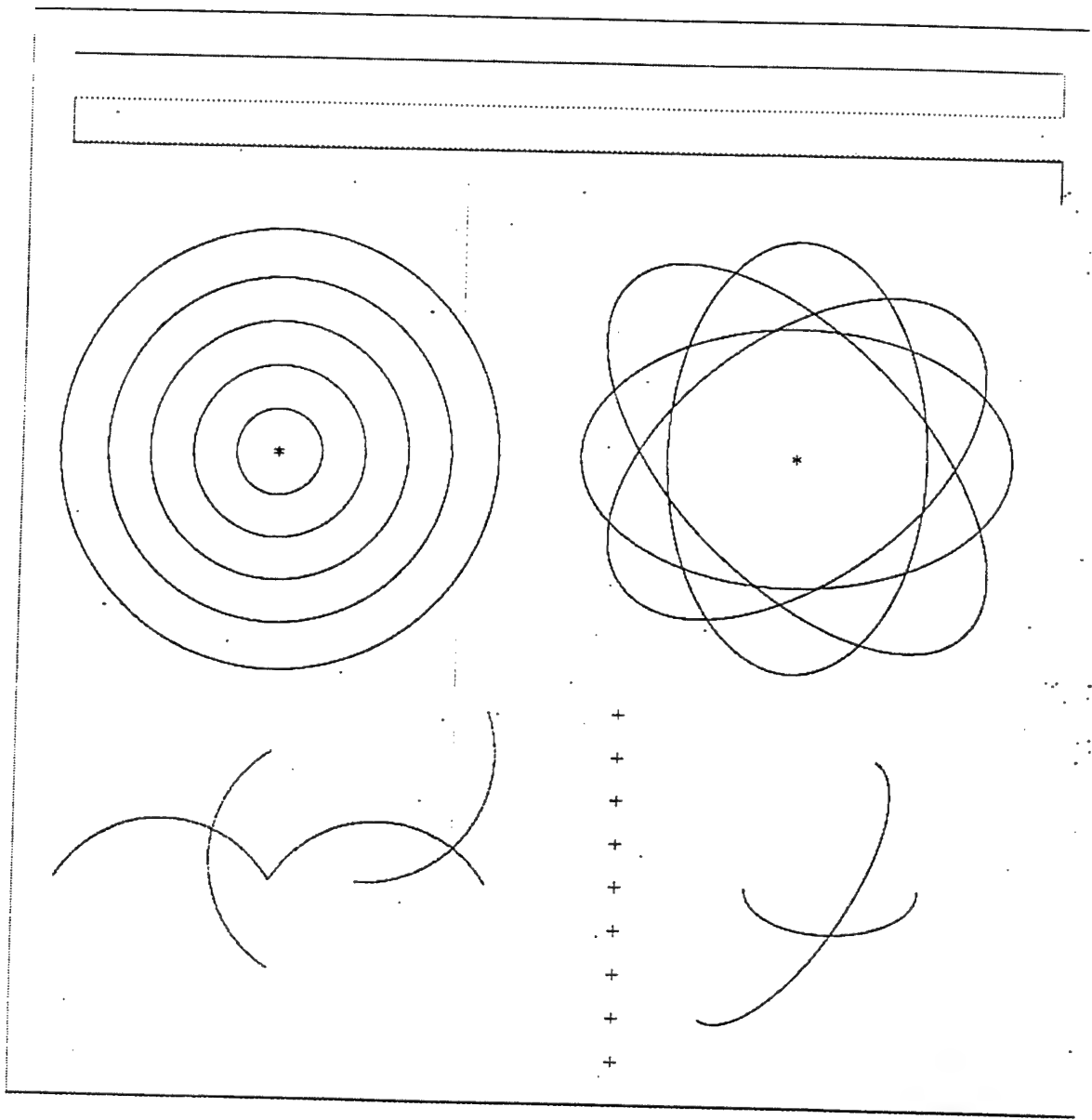
12.3   File C206

12.3.1   Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93      Time:  15:05:22

Metafile Examined    : i:\9318\c206.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All


======================= Trace Report =========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ============

No profile discrepancies detected.

================ Conformance Summary Report ================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93      Time:  15:05:24

Name of CGM under test: i:\9318\c206.cgm
Encoding              : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : "fills.cgm"
METAFILE DESCRIPTION  : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 154; string contains: "Picture 1"

Conformance Summary  :  This file conforms to the CGM specification.
```

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

        1 Pictures Tested
       56 Elements Tested
      856 Octets Tested

```
==================================
|    No Errors Were Detected    |
==================================
```

================ End of Conformance Report ==================

12.3.2   validcgm Log

```
Analysis for file c206.cgm using table table
ERROR: illegal in this state (2), std B
ERROR: required precursor (0, 4) not yet seen
(14.1, 0)        (3, 6, 2)       Clip Indicator OFF
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(1, 12) occurred 1 time
(1, 13) occurred 1 time
(2, 2) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 2) occurred 1 time
(3, 6) occurred 1 time
(3, 6) occurred illegally 1 time
```

```
(4,  1) occurred 1 time
(4,  7) occurred 2 times
(4, 12) occurred 2 times
(4, 16) occurred 2 times
(4, 17) occurred 2 times
(4, 19) occurred 2 times
(5,  2) occurred 1 time
(5,  3) occurred 1 time
(5,  4) occurred 1 time
(5, 22) occurred 6 times
(5, 23) occurred 6 times
(5, 24) occurred 1 time
(5, 30) occurred 6 times
(5, 31) occurred 1 time
(5, 34) occurred 1 time
```
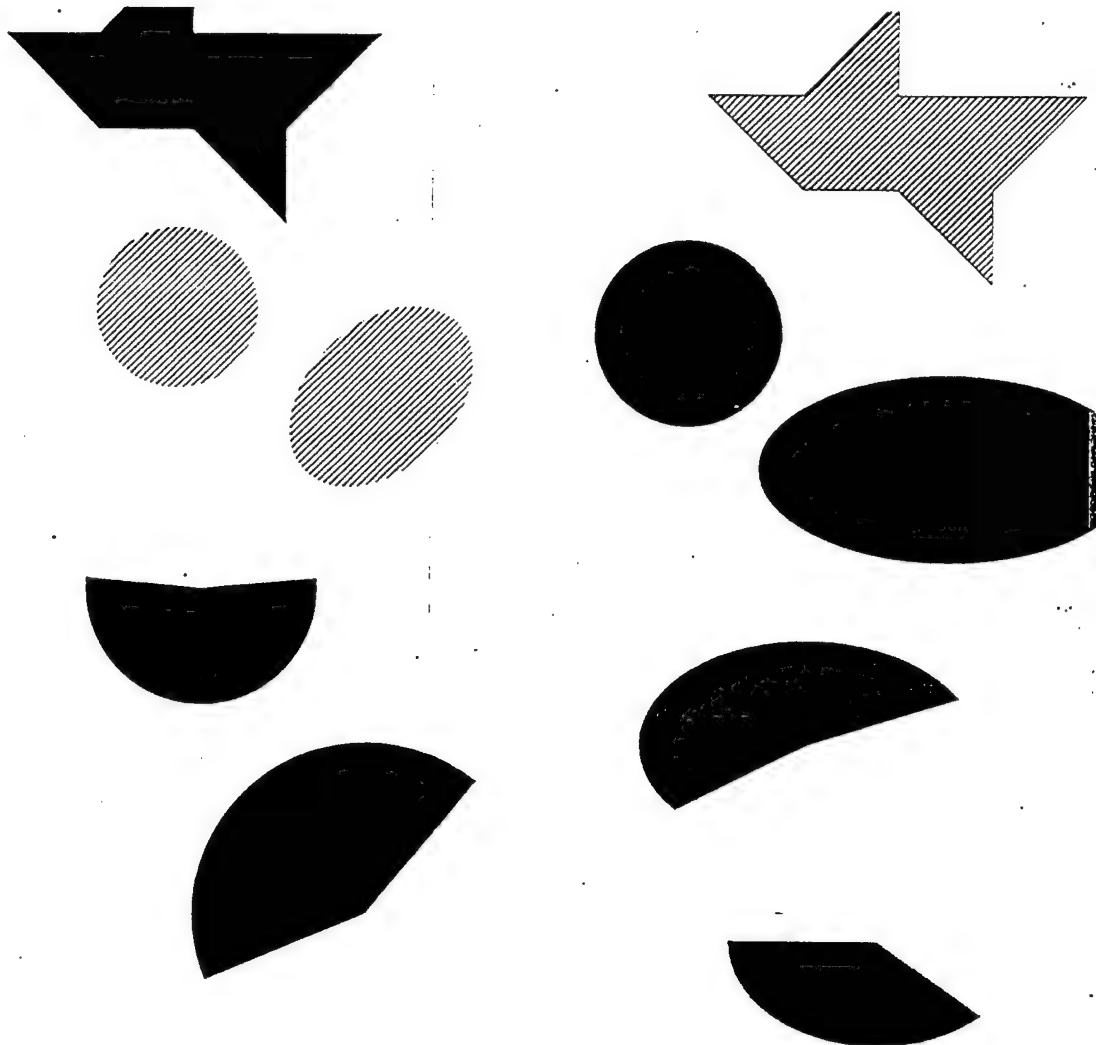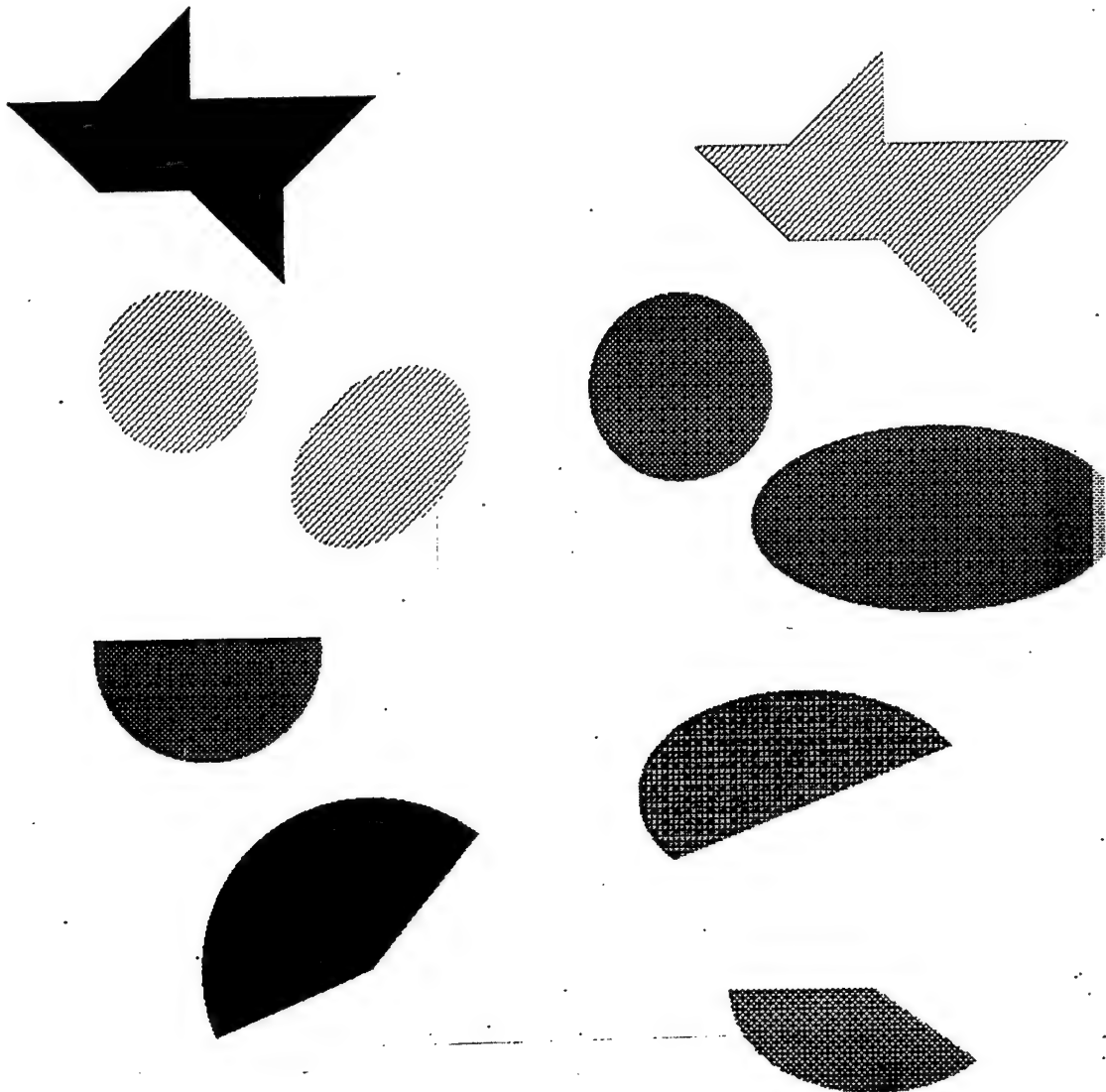
12.3.3   Output Harvard Graphics
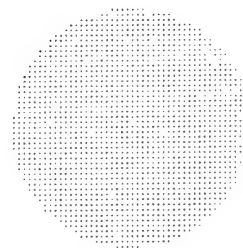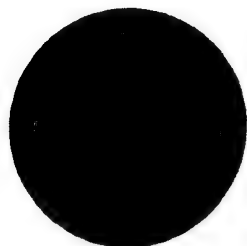
9318 - HG305 - C206

12.3.4 Output IslandDraw

12.3.5   Output cgm2draw/IslandDraw

12.4   File C207

12.4.1   Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93      Time:  15:05:32

Metafile Examined     : i:\9318\c207.cgm

Pictures Examined     : All
Elements Examined     : All
Bytes     Examined    : All

======================= Trace Report ========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ===========

No profile discrepancies detected.

================ Conformance Summary Report ================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93      Time:  15:05:33

Name of CGM under test: i:\9318\c207.cgm
Encoding               : Binary

Pictures Examined     : All
Elements Examined     : All
Bytes     Examined    : All

BEGIN METAFILE string : "lines.cgm"
METAFILE DESCRIPTION   : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 130; string contains: "Picture 1"

Private values encountered in CGM
```

Conformance Summary : This file conforms to the CGM specification.

                        This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

            1 Pictures Tested
           71 Elements Tested
          664 Octets Tested

```
=====================================
|     No Errors Were Detected     |
=====================================
```

================ End of Conformance Report ==================

12.4.2   validcgm Log

```
Analysis for file c207.cgm using table table
ERROR: illegal in this state (2), std B
ERROR: required precursor (0, 4) not yet seen
(13.1, 0)          (3, 6, 2)      Clip Indicator OFF
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(1, 12) occurred 1 time
(2, 2) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 2) occurred 1 time
(3, 6) occurred 1 time
```

(3, 6) occurred illegally 1 time
(4, 1) occurred 14 times
(5, 2) occurred 12 times
(5, 3) occurred 12 times
(5, 4) occurred 12 times
(5, 34) occurred 1 time

12.4.3 Output Harvard Graphics

9318 - HG305 - C207

12.4.4 Output IslandDraw

12.4.5 Output cgm2draw/IslandDraw

12.5 File C208

12.5.1 Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93     Time:  15:05:41

Metafile Examined    : i:\9318\c208.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes     Examined   : All


====================== Trace Report ========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

No Errors Detected

========== CALS CGM Profile (MIL-D-28003) Report ===========

No profile discrepancies detected.

================ Conformance Summary Report ================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 03/07/93     Time:  15:05:43

Name of CGM under test: i:\9318\c208.cgm
Encoding            : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes     Examined   : All

BEGIN METAFILE string : "text.cgm"
METAFILE DESCRIPTION   : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 178; string contains: "Picture 1"

Conformance Summary  :  This file conforms to the CGM specification.
```

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

        1 Pictures Tested
       67 Elements Tested
      896 Octets Tested

```
===================================
|    No Errors Were Detected    |
===================================
```

================ End of Conformance Report ==================

12.5.2 validcgm Log

```
Analysis for file c208.cgm using table table
ERROR: illegal in this state (2), std B
ERROR: required precursor (0, 4) not yet seen
(14.1, 0)        (3, 6, 2)      Clip Indicator OFF
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(1, 12) occurred 1 time
(1, 13) occurred 1 time
(2, 2) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 2) occurred 1 time
(3, 6) occurred 1 time
(3, 6) occurred illegally 1 time
```

```
(4, 4)  occurred 17 times
(5, 10) occurred 3 times
(5, 12) occurred 3 times
(5, 13) occurred 3 times
(5, 14) occurred 2 times
(5, 15) occurred 4 times
(5, 16) occurred 5 times
(5, 17) occurred 4 times
(5, 18) occurred 4 times
(5, 34) occurred 1 time
```

12.5.3 Output Harvard Graphics

BOLD 45

BOLD

RIGHCENTEXERDPAMEXTEXT

TEXT 12
BOLD .15

SPACING 2

EXPANSION FACTOR 1.5

TEXT COLOR RED

9318 - HG305 - C208

12.5.4   Output cgm2draw/IslandDraw

CENTER TEXT

RIGHT TEXT

ABCD
EFG
HIJK
LMOP
QRST
UVW
XYZ

BOLD 45

D   T
O   X
W   E
N   T

T   P
E   U
X
T

TEXT .12.

BOLD .15

S   P   A   C   I   N   G   2

EXPANSION FACTOR 1.5

TEXT COLOR RED